Fig.1

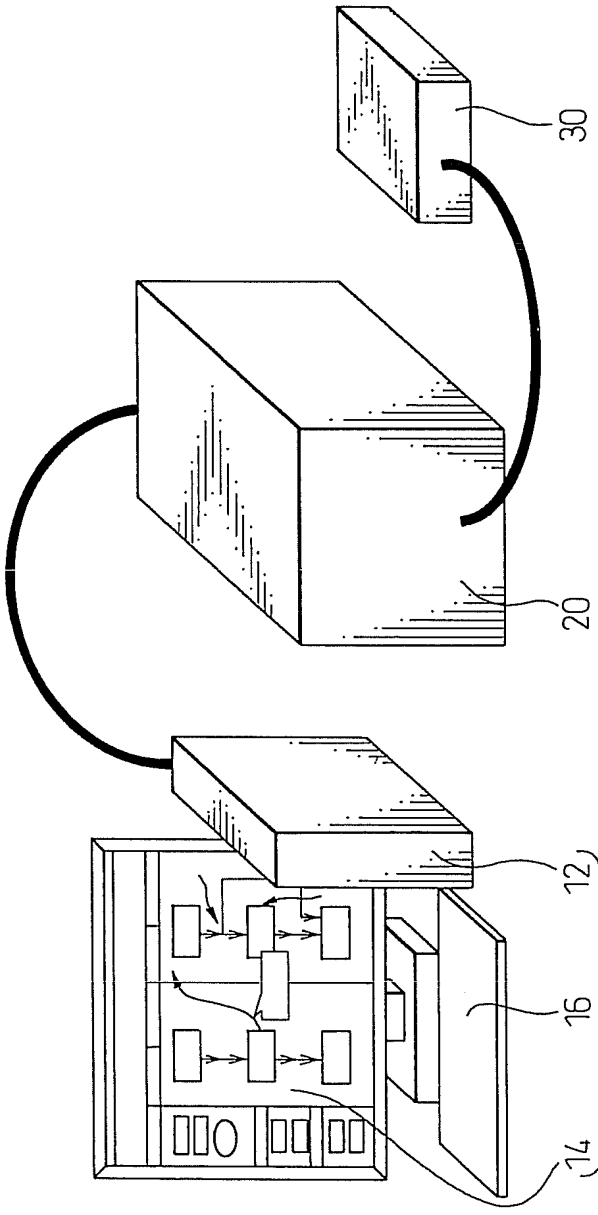


Fig.2

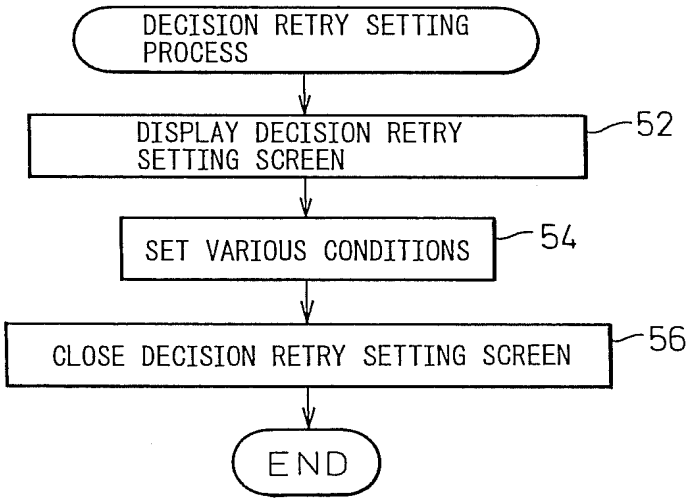

DECISION RETRY SETTING PROCESS
DISPLAY DECISION RETRY SETTING SCREEN
52
SET VARIOUS CONDITIONS
54
CLOSE DECISION RETRY SETTING SCREEN
56
END

Fig.3

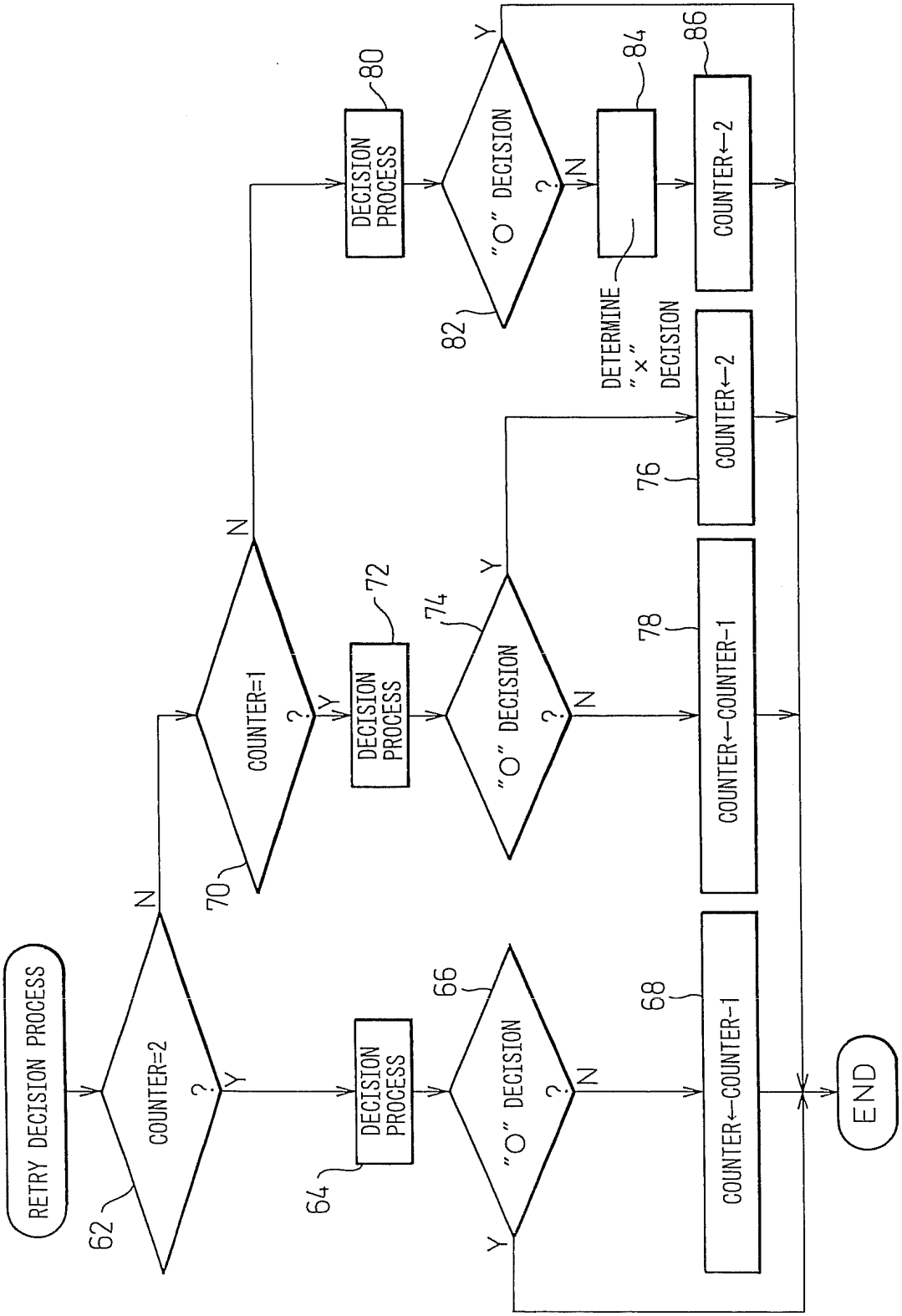

RETRY DECISION PROCESS
COUNTER=2 ?
62
N
Y
DECISION PROCESS
64
"O" DECISION ?
66
N
Y
COUNTER←COUNTER-1
68
COUNTER=1 ?
70
N
Y
DECISION PROCESS
72
"O" DECISION ?
74
N
Y
COUNTER←COUNTER-1
78
COUNTER←2
76
DECISION PROCESS
80
"O" DECISION ?
82
N
Y
DETERMINE "×" DECISION
84
COUNTER←2
86
END

Fig. 4

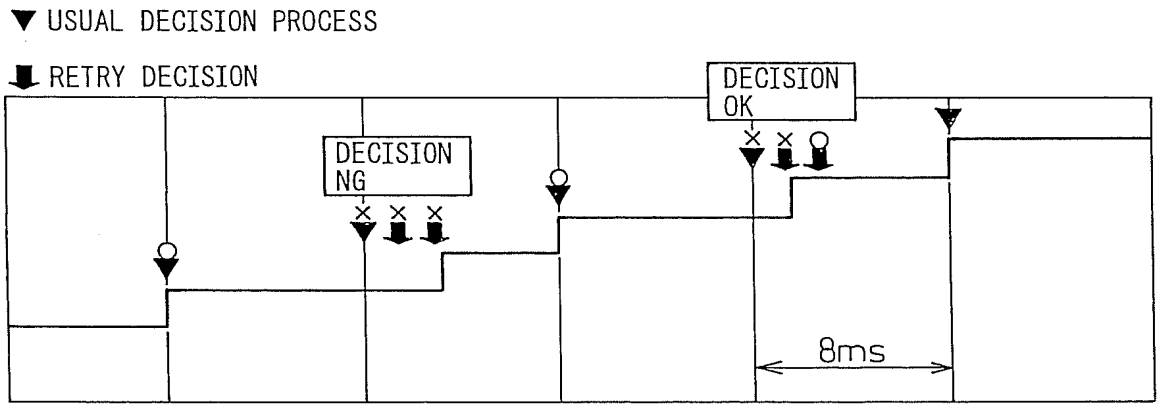


Fig. 5A

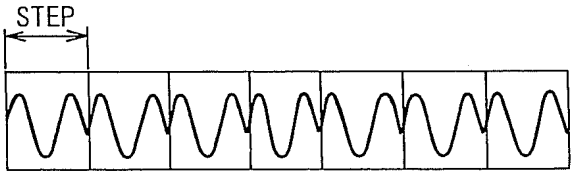


Fig. 5B

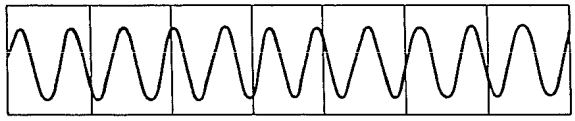


Fig. 5C

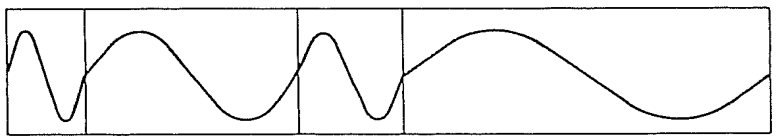


Fig.6

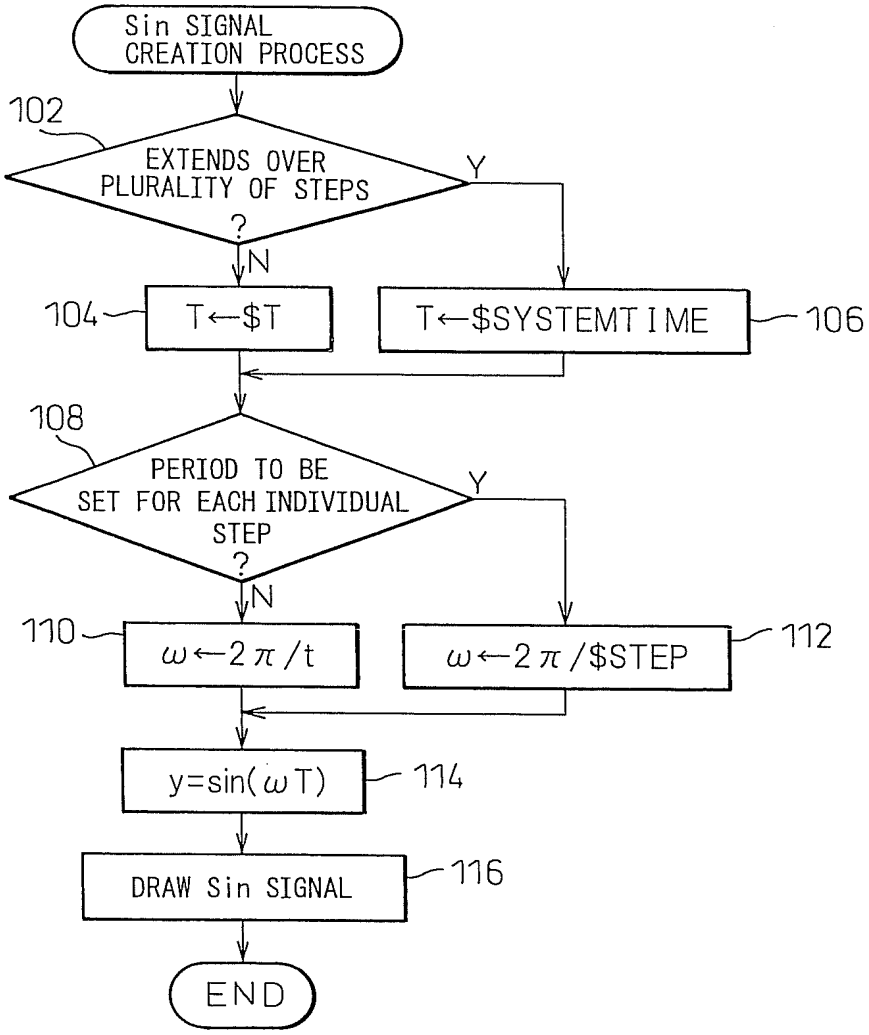


Fig.7

SIGNAL NAME	B
FUNCTION	A*36

Fig. 8

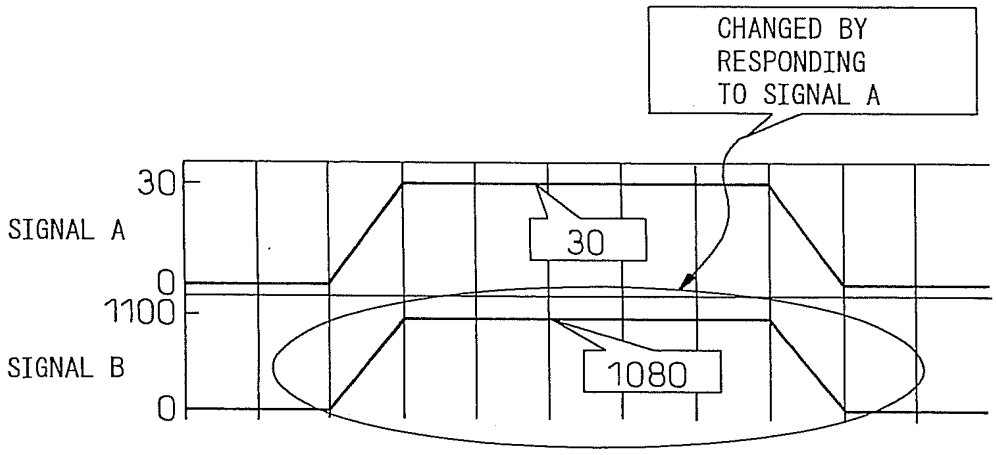

CHANGED BY
RESPONDING
TO SIGNAL A
30
SIGNAL A
0
1100
SIGNAL B
0
30
1080

Fig. 9

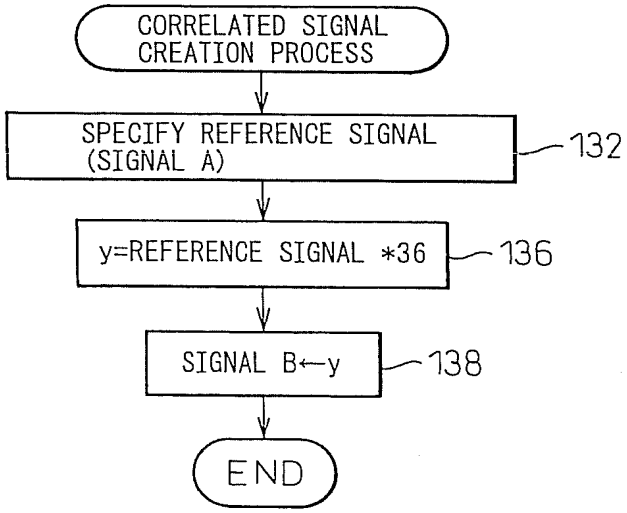

CORRELATED SIGNAL
CREATION PROCESS
SPECIFY REFERENCE SIGNAL
(SIGNAL A)
132
y=REFERENCE SIGNAL *36
136
SIGNAL B←y
138
END

Fig.10

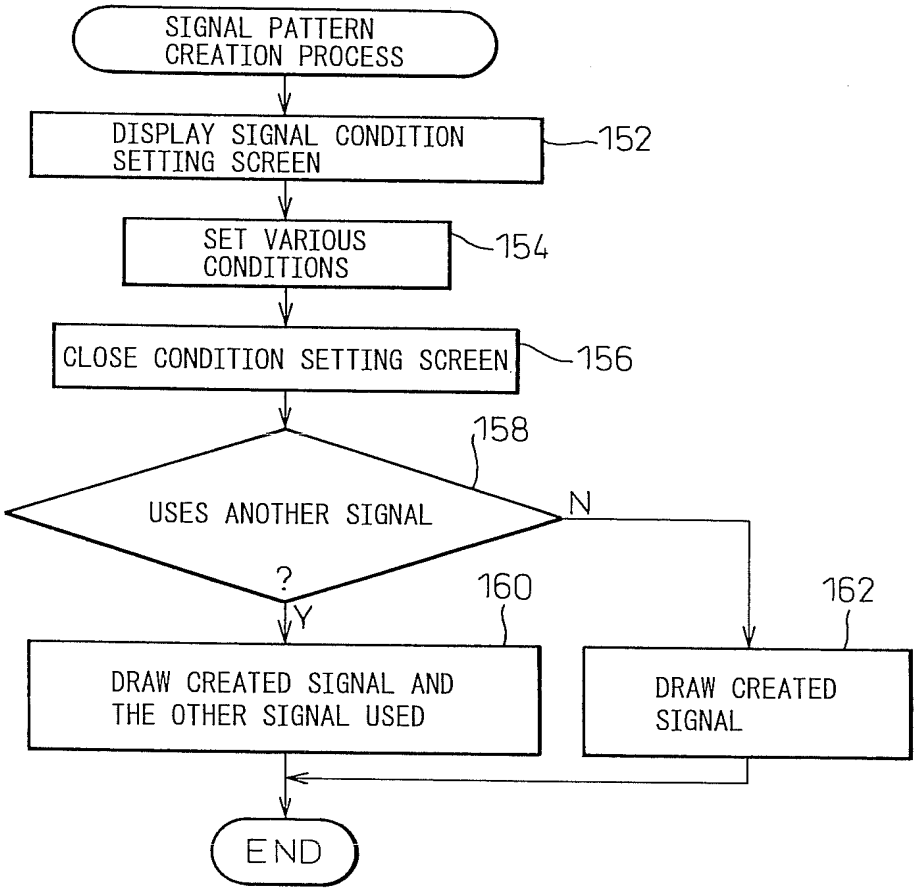

SIGNAL PATTERN CREATION PROCESS
DISPLAY SIGNAL CONDITION SETTING SCREEN
152
SET VARIOUS CONDITIONS
154
CLOSE CONDITION SETTING SCREEN
156
158
USES ANOTHER SIGNAL ?
N
Y
160
162
DRAW CREATED SIGNAL AND THE OTHER SIGNAL USED
DRAW CREATED SIGNAL
END

Fig.11

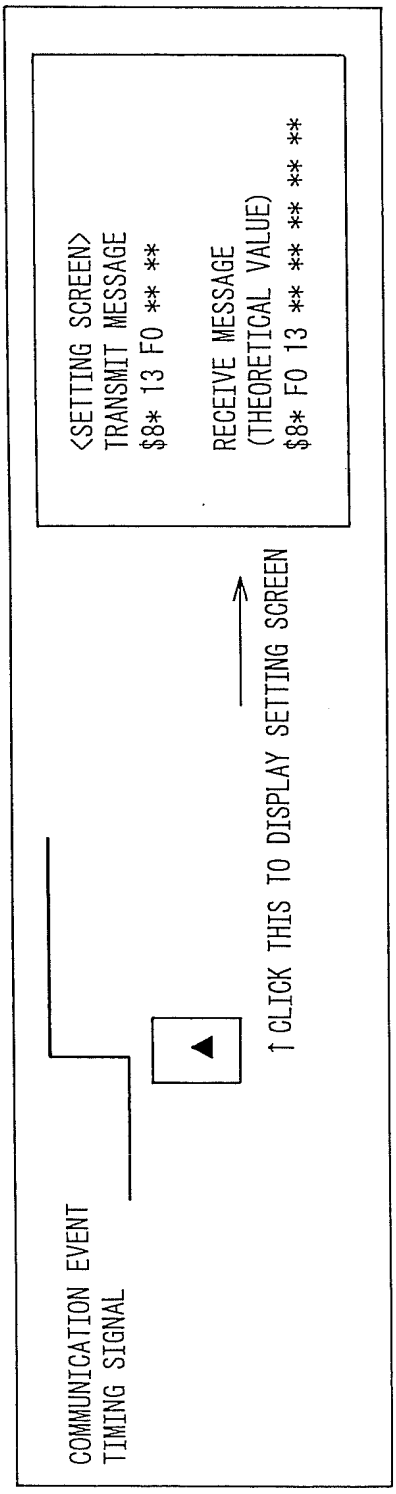

<SETTING SCREEN>
TRANSMIT MESSAGE
$8* 13 F0 ** **
RECEIVE MESSAGE
(THEORETICAL VALUE)
$8* F0 13 ** ** ** **
↑ CLICK THIS TO DISPLAY SETTING SCREEN
COMMUNICATION EVENT
TIMING SIGNAL

Fig.12

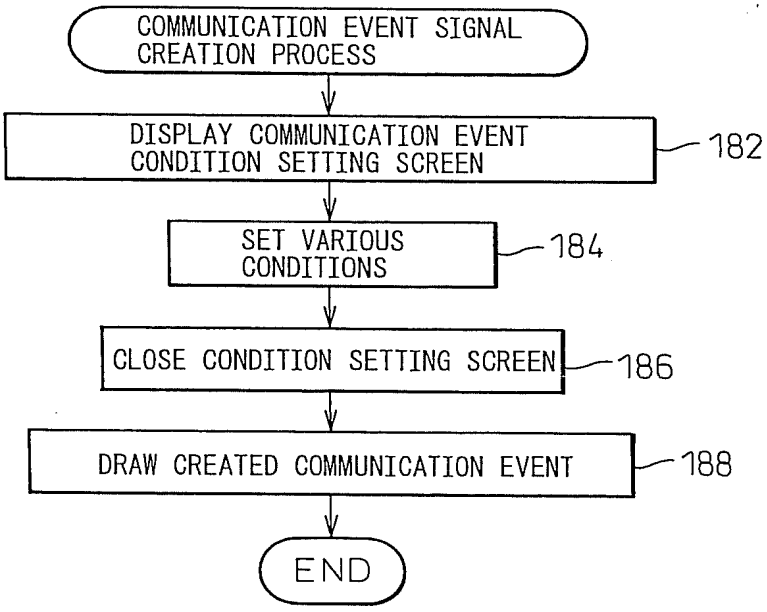

COMMUNICATION EVENT SIGNAL CREATION PROCESS
DISPLAY COMMUNICATION EVENT CONDITION SETTING SCREEN
182
SET VARIOUS CONDITIONS
184
CLOSE CONDITION SETTING SCREEN
186
DRAW CREATED COMMUNICATION EVENT
188
END

Fig.13

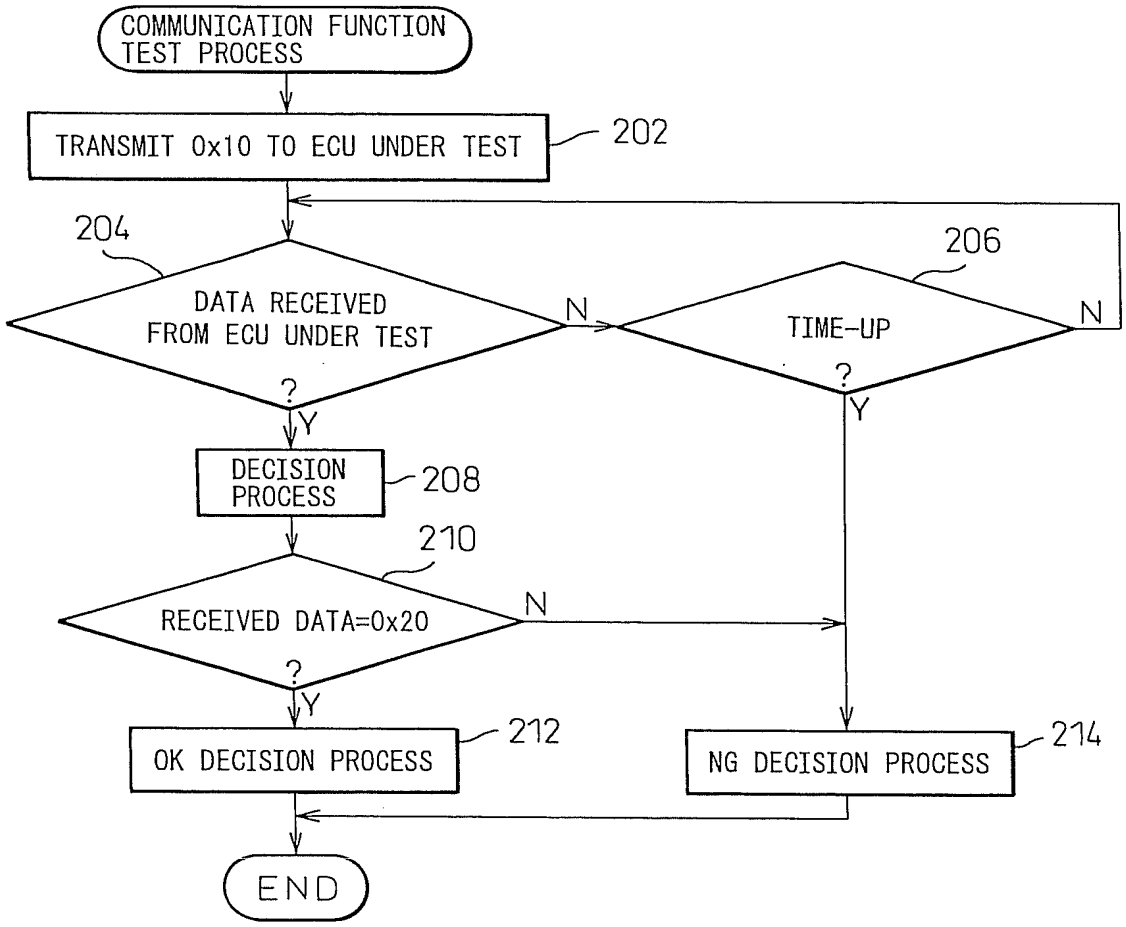

COMMUNICATION FUNCTION TEST PROCESS
TRANSMIT 0x10 TO ECU UNDER TEST
202
204
DATA RECEIVED FROM ECU UNDER TEST
?
N
206
TIME-UP
?
N
Y
Y
DECISION PROCESS
208
210
RECEIVED DATA=0x20
?
N
Y
OK DECISION PROCESS
212
NG DECISION PROCESS
214
END

Fig.14

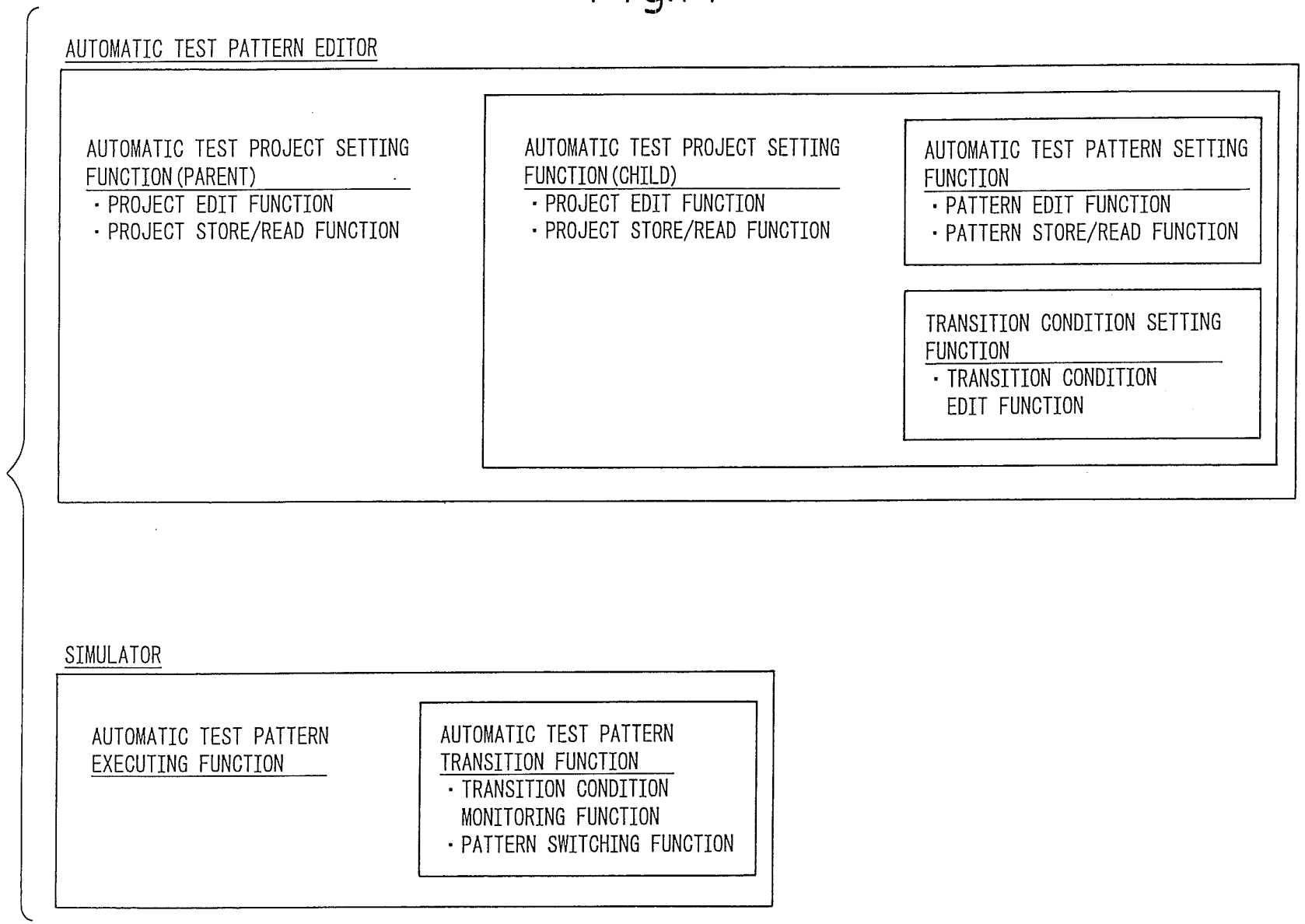

AUTOMATIC TEST PATTERN EDITOR
AUTOMATIC TEST PROJECT SETTING FUNCTION (PARENT)
・PROJECT EDIT FUNCTION
・PROJECT STORE/READ FUNCTION
AUTOMATIC TEST PROJECT SETTING FUNCTION (CHILD)
・PROJECT EDIT FUNCTION
・PROJECT STORE/READ FUNCTION
AUTOMATIC TEST PATTERN SETTING FUNCTION
・PATTERN EDIT FUNCTION
・PATTERN STORE/READ FUNCTION
TRANSITION CONDITION SETTING FUNCTION
・TRANSITION CONDITION EDIT FUNCTION
SIMULATOR
AUTOMATIC TEST PATTERN EXECUTING FUNCTION
AUTOMATIC TEST PATTERN TRANSITION FUNCTION
・TRANSITION CONDITION MONITORING FUNCTION
・PATTERN SWITCHING FUNCTION

Fig.15

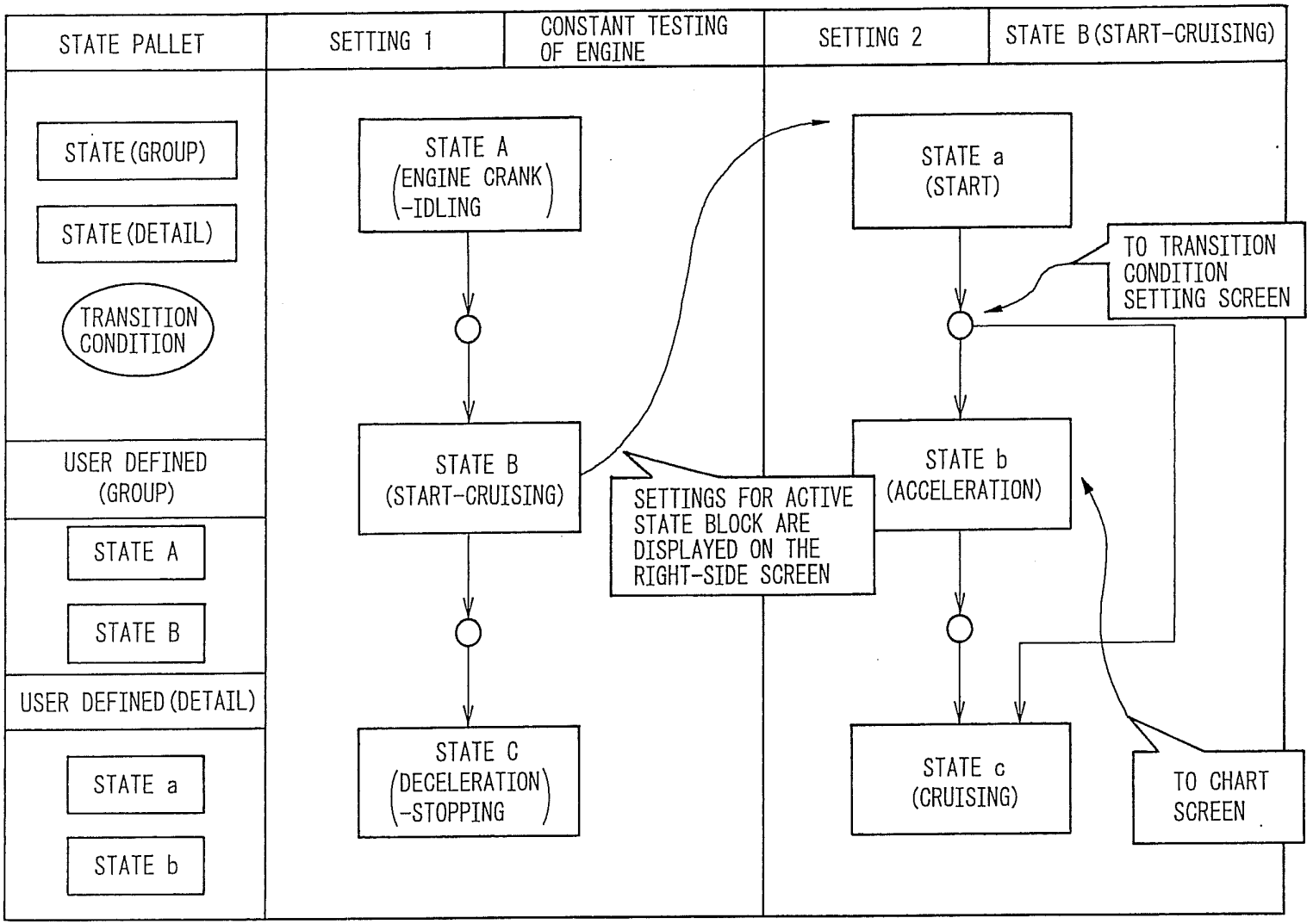

STATE PALLET
SETTING 1
CONSTANT TESTING OF ENGINE
SETTING 2
STATE B (START-CRUISING)
STATE (GROUP)
STATE (DETAIL)
TRANSITION CONDITION
USER DEFINED (GROUP)
STATE A
STATE B
USER DEFINED (DETAIL)
STATE a
STATE b
STATE A (ENGINE CRANK -IDLING)
STATE B (START-CRUISING)
STATE C (DECELERATION -STOPPING)
STATE a (START)
STATE b (ACCELERATION)
STATE c (CRUISING)
TO TRANSITION CONDITION SETTING SCREEN
SETTINGS FOR ACTIVE STATE BLOCK ARE DISPLAYED ON THE RIGHT-SIDE SCREEN
TO CHART SCREEN

Fig.16

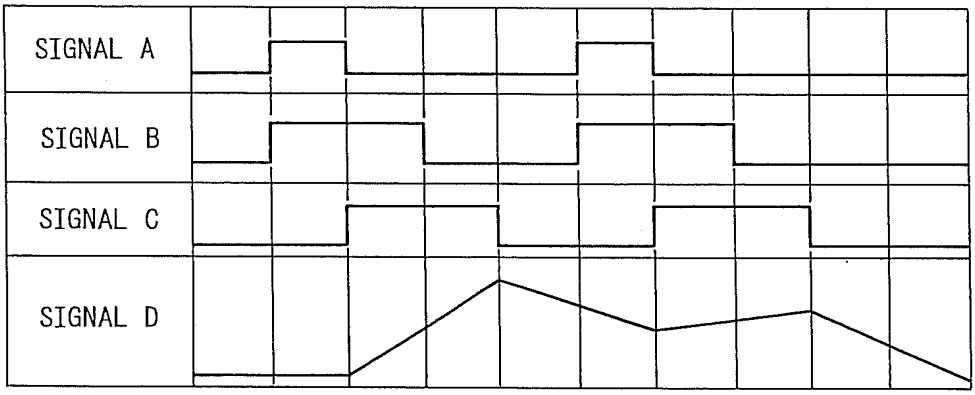

SIGNAL A
SIGNAL B
SIGNAL C
SIGNAL D

Fig.17

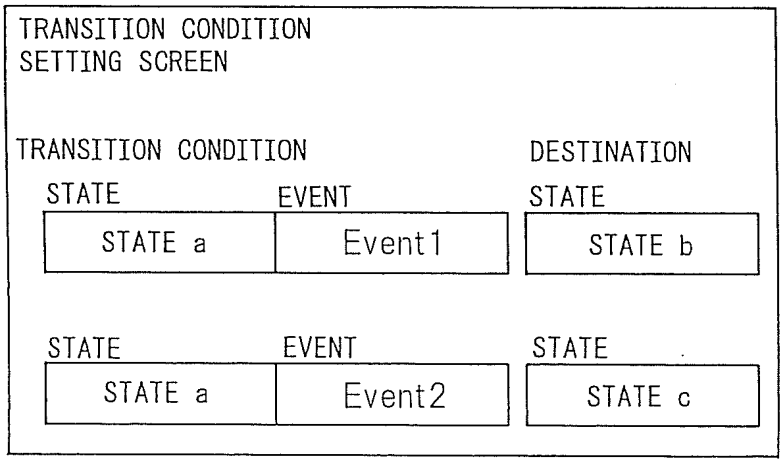

TRANSITION CONDITION
SETTING SCREEN
TRANSITION CONDITION
DESTINATION
STATE
EVENT
STATE
STATE a
Event1
STATE b
STATE
EVENT
STATE
STATE a
Event2
STATE c

Fig.18

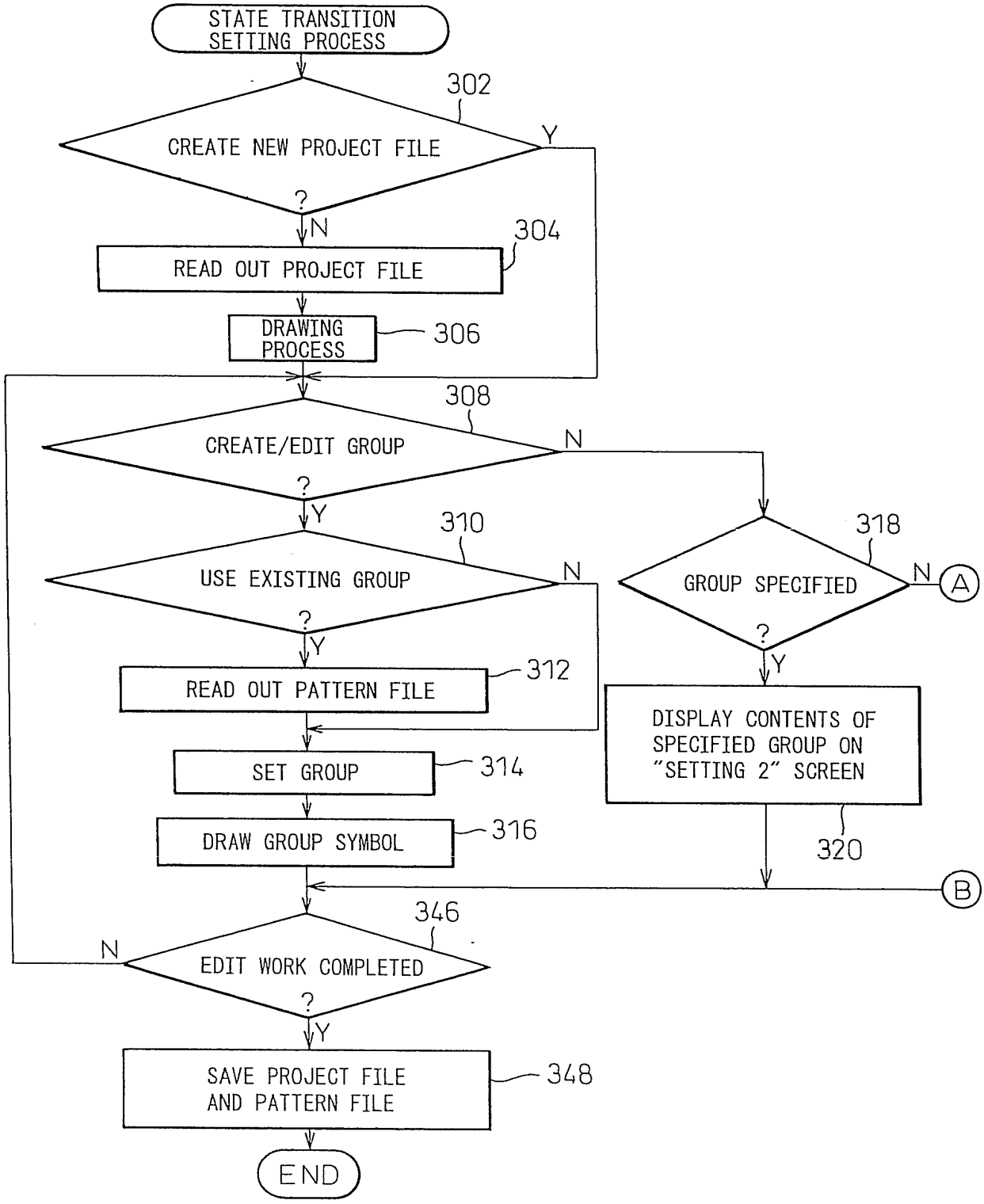

STATE TRANSITION SETTING PROCESS
302
CREATE NEW PROJECT FILE
?
Y
N
304
READ OUT PROJECT FILE
DRAWING PROCESS
306
308
CREATE/EDIT GROUP
?
N
Y
310
USE EXISTING GROUP
?
N
Y
312
READ OUT PATTERN FILE
SET GROUP
314
DRAW GROUP SYMBOL
316
318
GROUP SPECIFIED
?
N
A
Y
DISPLAY CONTENTS OF SPECIFIED GROUP ON "SETTING 2" SCREEN
320
B
346
EDIT WORK COMPLETED
?
N
Y
SAVE PROJECT FILE AND PATTERN FILE
348
END

Fig.19

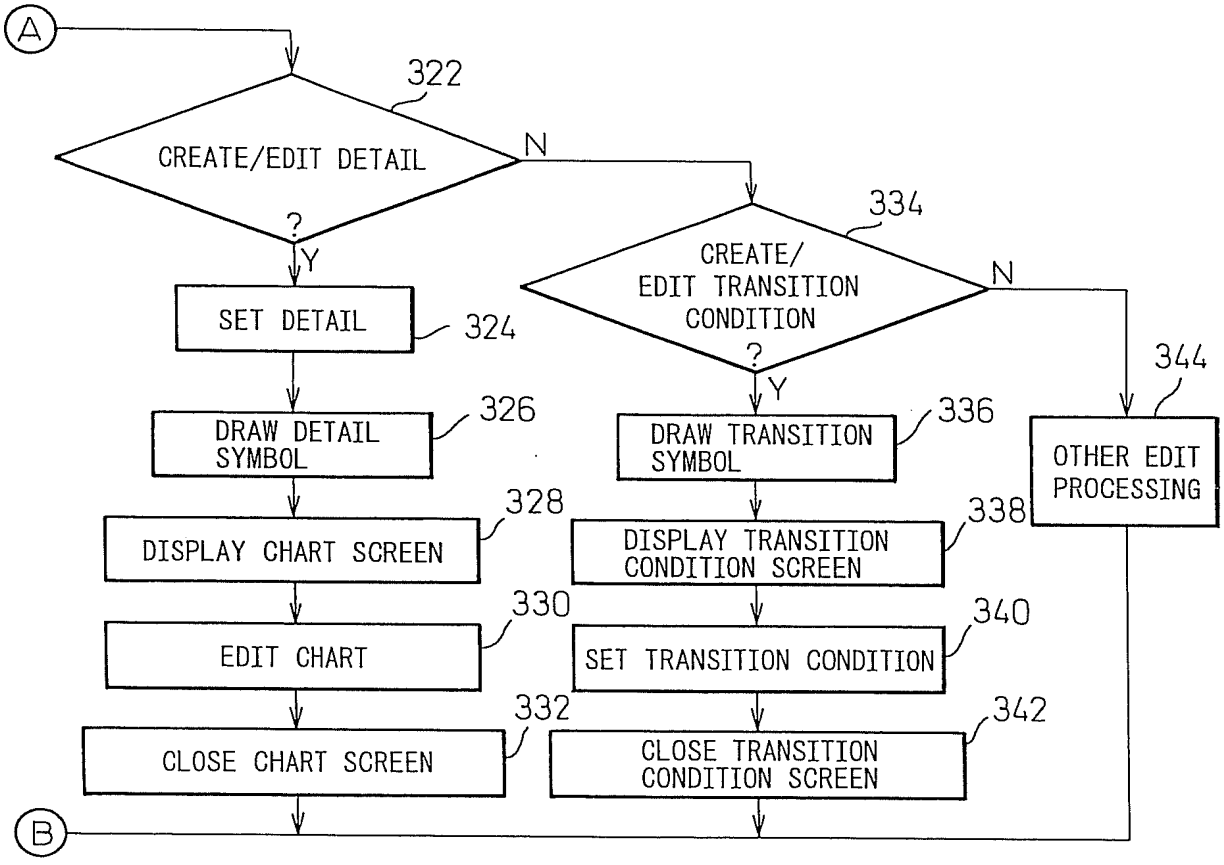
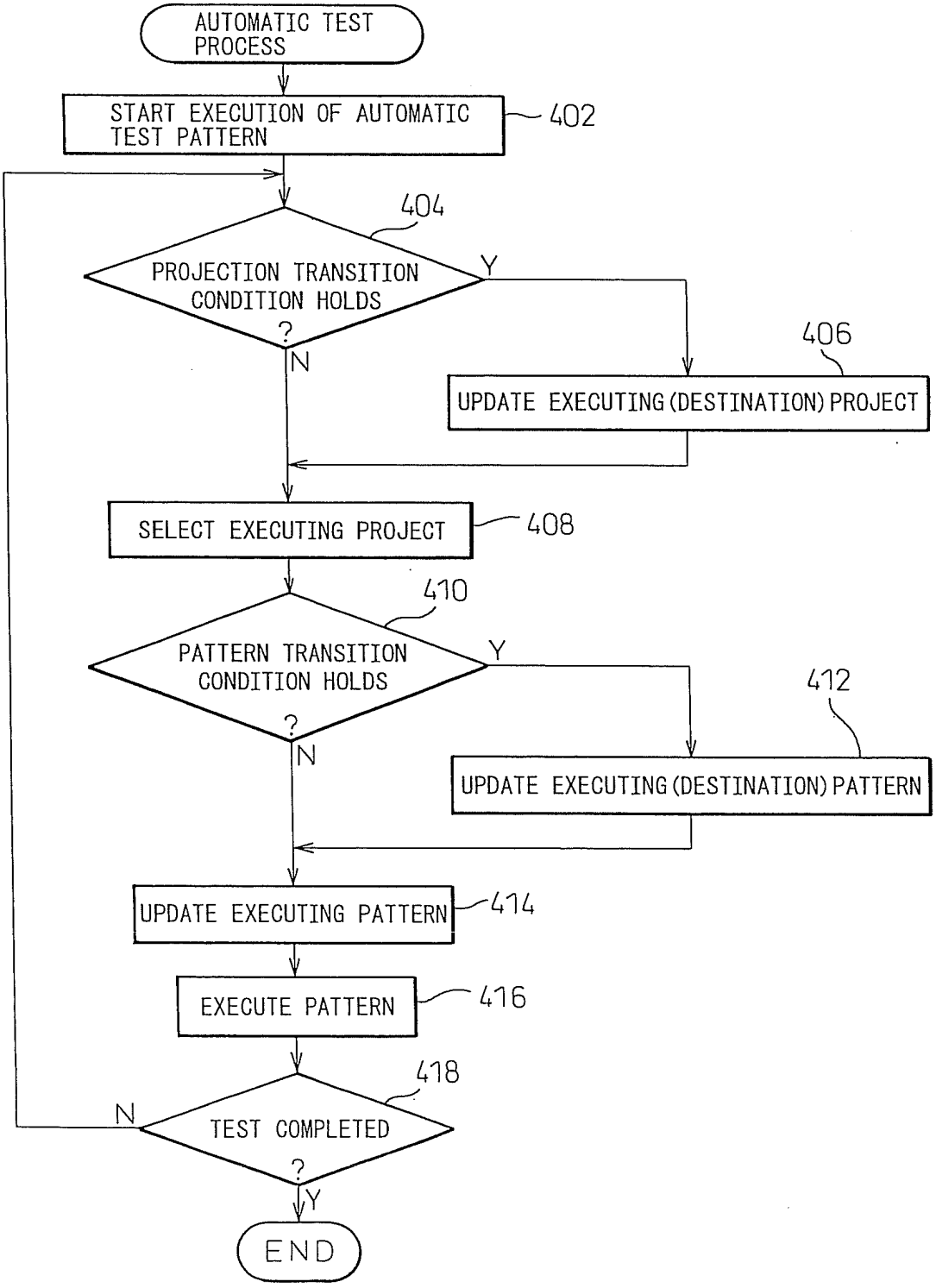

A
322
CREATE/EDIT DETAIL
?
N
Y
SET DETAIL
324
DRAW DETAIL SYMBOL
326
DISPLAY CHART SCREEN
328
EDIT CHART
330
CLOSE CHART SCREEN
332
334
CREATE/ EDIT TRANSITION CONDITION
?
N
Y
DRAW TRANSITION SYMBOL
336
DISPLAY TRANSITION CONDITION SCREEN
338
SET TRANSITION CONDITION
340
CLOSE TRANSITION CONDITION SCREEN
342
344
OTHER EDIT PROCESSING
B

Fig. 20


AUTOMATIC TEST PROCESS
START EXECUTION OF AUTOMATIC TEST PATTERN
402
404
PROJECTION TRANSITION CONDITION HOLDS ?
Y
N
406
UPDATE EXECUTING (DESTINATION) PROJECT
SELECT EXECUTING PROJECT
408
410
PATTERN TRANSITION CONDITION HOLDS ?
Y
N
412
UPDATE EXECUTING (DESTINATION) PATTERN
UPDATE EXECUTING PATTERN
414
EXECUTE PATTERN
416
418
TEST COMPLETED ?
N
Y
END